

A Comparative Review of Yoga Training and Physical Training Among College-Level Female Students

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Abstract

Yoga and physical training are important approaches to improving physical fitness and mental well-being among college-level female students. In India, yoga has a long tradition and is increasingly practiced alongside conventional exercise in educational institutions. Although both training methods contribute to better health, they differ in their techniques, training intensity, and effects on physical and psychological fitness. This review examines the differences between yoga training and conventional physical training, with particular attention to flexibility, muscular strength, endurance, cardiovascular fitness, balance, and stress management. Published research involving Indian college students and other relevant populations is considered to understand the benefits and limitations of these approaches. The available evidence indicates that yoga can improve flexibility, balance, respiratory function, and psychological well-being. Conventional physical training contributes to muscular development, aerobic endurance, and overall physical fitness, depending on the exercises performed. However, yoga can also improve strength and endurance when appropriate postures and training programmes are used. Both methods offer valuable health benefits, and their effectiveness depends on training duration, frequency, intensity, and individual fitness levels. An appropriate combination of yoga and physical training may provide a practical approach to improving the physical and mental health of female college students in India.

Keywords: Yoga Training, Physical Training, Female College Students, Physical Fitness, Mental Health, Comparative Review, India.

1. Introduction

Physical fitness is an important part of a healthy lifestyle and contributes to an individual's physical, mental, and social well-being. Regular participation in physical activities helps maintain muscular strength, flexibility, cardiovascular endurance, and psychological health. The World Health Organization recommends regular aerobic and muscle-strengthening activities for adults to obtain significant health benefits [1]. These recommendations are particularly relevant to college students, whose daily routines may involve prolonged sitting, academic pressure, and limited opportunities for recreational activities.

Female college students in India experience various challenges related to academic responsibilities, personal health, physical inactivity, and stress. Participation in suitable fitness

programmes may help them maintain an active lifestyle and improve their general well-being. Yoga and conventional physical training are two important approaches that can be incorporated into college physical education programmes.

Yoga originated in ancient India and includes physical postures, controlled breathing, and meditation. It focuses on the coordination of the body and mind through practices such as asanas, pranayama, and relaxation techniques. Conventional physical training generally involves activities such as running, jogging, aerobic exercise, resistance training, and sports-related movements. These activities are commonly performed to develop strength, speed, endurance, and physical performance.

Although yoga includes physical movements, its principles differ from those of conventional exercise. Govindaraj et al. [2] discussed the differences between yoga and physical exercise in terms of their concepts, mechanisms, and health effects. Yoga generally places greater emphasis on breathing, body awareness, and controlled movement, whereas conventional exercise is often organized around specific fitness objectives and progressive physical workloads.

The benefits of yoga and exercise have also been examined through comparative research. Ross and Thomas [3] reported that yoga may provide benefits comparable to conventional exercise for several health-related outcomes. Nevertheless, different forms of exercise may produce different physiological responses, making it difficult to identify one method as universally superior.

In the Indian educational context, understanding the differences between these training approaches is important for designing physical education activities that address the needs of female students. The present review compares yoga training and conventional physical training in relation to physical fitness, cardiovascular health, flexibility, muscular strength, endurance, and psychological well-being, with particular emphasis on evidence relevant to Indian college students.

2. Review Methodology

A narrative review approach was used to examine published findings on yoga training and conventional physical training. Relevant studies were identified from scholarly literature accessible through PubMed, academic journal websites, and other research sources. Particular attention was given to studies conducted in India and involving college students, especially female participants.

The literature was examined using subject areas such as yoga training, physical exercise, female college students, physical fitness, cardiovascular endurance, flexibility, and mental well-being. Studies addressing the effects of yoga or conventional exercise on physical and psychological outcomes were considered relevant.

Research involving Indian college students formed the main focus of the review. Studies involving other populations were considered where they provided useful comparative

evidence. The findings were organized according to selected health and fitness outcomes, including flexibility, balance, muscular strength, endurance, cardiovascular function, and stress management.

The available findings were compared qualitatively. Differences in participants, exercise protocols, intervention periods, and measurement methods were considered during interpretation. No statistical meta-analysis was performed because the reviewed studies differed in their research designs and outcome measures.

3. Review of Related Literature

Several studies have examined the effects of yoga on the physical and psychological health of college students. Research conducted in India provides useful evidence regarding its application in educational settings.

Godse et al. [4] investigated the effects of Suryanamaskar on relaxation among college students experiencing high stress in Pune, India. The study used a randomized control-group design and examined the psychological effects of a traditional yogic practice. Its findings supported the potential role of Suryanamaskar in improving relaxation-related outcomes among students.

Tripathi et al. [5] examined the psychophysiological effects of yoga on stress in college students. Their findings suggested that yoga may help reduce stress and improve psychological functioning. The study also highlighted the need for further research involving different groups of college students.

Sunita et al. [6] conducted an intervention study involving 105 female undergraduate medical students in India. Participants were assigned to control, meditation, pranayama, and yoga groups. The interventions continued for 12 weeks. The findings indicated reductions in anxiety, depression, and anger and improvements in well-being among the intervention groups. The yoga group demonstrated particularly favourable results for several mental health outcomes.

Mitra et al. [7] studied the effects of a customized yoga programme on 60 sedentary female college students in India. The yoga intervention was conducted over three months. Improvements were observed in respiratory function, handgrip strength, oxygen consumption, and physical work capacity. The findings suggest that appropriately designed yoga programmes may also contribute to muscular and cardiovascular fitness.

Thirumalaisamy [8] examined the effects of yogic practices on selected physical fitness variables among university women students at Alagappa University, Tamil Nadu. The study considered physical variables such as flexibility, balance, and muscular strength and provided additional evidence relevant to yoga-based fitness programmes for young women.

Evidence comparing yoga and conventional exercise is also available from broader populations. Ross and Thomas [3] reviewed comparative research and found that yoga offered benefits across several physical and psychological outcomes. However, the review also noted

differences in physical fitness results, suggesting that yoga and exercise should not be considered identical forms of training.

Together, these studies indicate that yoga can support several components of health and fitness among college students. However, relatively few directly compare yoga and structured conventional physical training among Indian female college students using the same duration, intensity, and outcome measures.

Table 1. Summary of Selected Research Studies

Author and Year	Participants / Study Focus	Main Findings
Godse et al. (2015) [4]	College students in Pune, India	Suryanamaskar showed benefits for relaxation-related outcomes
Tripathi et al. (2018) [5]	Stress among college students	Yoga showed positive psychophysiological effects
Sunita et al. (2022) [6]	105 female undergraduate medical students	Yoga and related practices reduced negative psychological symptoms
Mitra et al. (2024) [7]	60 female college students	Yoga improved respiratory and selected physical fitness outcomes
Thirumalaisamy (2019) [8]	University women students in Tamil Nadu	Examined changes in selected physical fitness variables
Ross and Thomas (2010) [3]	Review of yoga and exercise studies	Both approaches offered health benefits, with differences across outcomes

4. Comparative Analysis of Yoga and Physical Training

4.1 Flexibility and Balance

Flexibility is the ability of muscles and joints to move through an appropriate range of motion. It contributes to posture, mobility, and the performance of daily physical activities.

Yoga includes stretching and controlled movements that can improve joint mobility and muscular flexibility. Practices such as Trikonasana, Bhujangasana, and Paschimottanasana involve movements that emphasize controlled stretching and body positioning.

Conventional physical training also improves flexibility when stretching, mobility exercises, and appropriate warm-up activities are included. However, programmes designed mainly for speed, strength, or endurance may devote less time to flexibility training.

Yoga additionally requires control of body position during standing and balancing postures. This may improve coordination and postural stability. Studies involving university women and other populations support the potential contribution of yoga to flexibility and balance [7], [8].

The available evidence suggests that yoga can be useful for developing flexibility and balance, although properly designed conventional exercise programmes may produce similar benefits.

4.2 Muscular Strength and Endurance

Muscular strength refers to the ability of muscles to generate force, while muscular endurance describes their capacity to perform repeated contractions or maintain activity over time.

Conventional physical training commonly includes resistance exercises, bodyweight movements, and repetitive physical activities. Such exercises can be adjusted progressively to improve muscular strength and endurance.

Yoga uses bodyweight-supported postures and sustained muscular contractions. Asanas such as Plank Pose, Chair Pose, and Warrior Pose require muscular control and may contribute to strength development.

Mitra et al. [7] reported improvements in handgrip strength and physical work capacity following a structured yoga intervention among female college students. These results indicate that yoga should not be regarded as a relaxation activity alone.

Nevertheless, conventional resistance training offers a more direct method of increasing muscular strength through progressive increases in exercise load. Yoga may complement this training by improving muscular control, flexibility, and body awareness.

4.3 Cardiovascular and Respiratory Fitness

Cardiovascular fitness is associated with the ability of the heart, lungs, and circulatory system to supply oxygen during physical activity. Activities such as running, cycling, swimming, and aerobic exercise are commonly used to improve cardiovascular endurance.

Conventional physical training can involve sustained or repeated exercise at moderate to vigorous intensity. Regular participation improves aerobic fitness and contributes to cardiovascular health [1].

Yoga usually combines controlled postures with breathing exercises and relaxation. Although many yoga practices involve relatively low physical intensity, more active sequences can also create cardiovascular demands.

Mitra et al. [7] observed improvements in selected respiratory and cardiovascular measures following yoga training among sedentary female college students. These findings suggest that yoga may provide physiological benefits beyond flexibility and relaxation.

However, the cardiovascular demands of yoga depend strongly on the style and intensity of practice. Gentle yoga sessions cannot automatically be considered equivalent to moderate- or vigorous-intensity aerobic exercise.

4.4 Psychological Well-being and Stress Management

Mental well-being is particularly important among college students because academic demands, examinations, and personal responsibilities can contribute to psychological stress.

Yoga combines physical movement with controlled breathing and focused attention. These practices may encourage relaxation and improve awareness of emotional responses.

Studies conducted among Indian college students have reported encouraging findings regarding the psychological benefits of yoga. Godse et al. [4] examined relaxation outcomes following Suryanamaskar, while Tripathi et al. [5] described positive effects of yoga on stress-related measures.

Sunita et al. [6] reported improvements in anxiety, depression, anger, and general well-being following structured meditation, pranayama, and yoga interventions among female medical students.

Conventional physical training also contributes to mental health. Regular exercise is associated with improvements in psychological well-being and reduced symptoms of anxiety and depression [1].

The main difference lies in the training approach. Yoga deliberately integrates breathing and attention regulation with physical activity, whereas conventional exercise often emphasizes movement, fitness development, and physical performance. Both may contribute to stress management through different and partly overlapping pathways.

4.5 Accessibility and Practical Application

The suitability of a training programme also depends on its cost, availability, supervision requirements, and the interests of participating students.

Yoga can often be performed in a classroom, activity hall, or open space with limited equipment. This makes it a practical option for many Indian colleges, including institutions with limited sports facilities.

Conventional physical training may require access to playgrounds, sports equipment, running areas, or fitness facilities, depending on the activity. However, many exercises, including walking, jogging, and basic bodyweight movements, can also be performed at little or no cost.

Both approaches can be adapted to different fitness levels. Appropriate guidance, gradual progression, and safe exercise techniques remain important for preventing discomfort and injuries.

Table 2. Comparison of Yoga and Conventional Physical Training

Parameter	Yoga Training	Conventional Physical Training
Main emphasis	Body awareness, movement, breathing, and relaxation	Fitness development and physical performance
Flexibility	Commonly emphasized through asanas	Improved through stretching and mobility exercises
Muscular strength	Developed through selected bodyweight postures	Developed through resistance and strength exercises
Endurance	Depends on yoga style and training intensity	Common objective of aerobic and endurance programmes
Cardiovascular fitness	Benefits vary with the intensity of practice	Often developed through sustained aerobic activity
Balance	Commonly trained through standing and balancing postures	Developed through coordination and balance activities
Stress management	Includes breathing, attention, and relaxation practices	Can improve mood and psychological well-being
Equipment	Usually minimal	Depends on the exercise or sport
Suitability for colleges	Can be organized in limited spaces	Can be adapted to available facilities and resources

5. Discussion

The reviewed literature indicates that yoga and conventional physical training are beneficial approaches to improving health and fitness among college-level female students. Their effects are influenced by the type of activity, intensity, frequency, duration, and initial fitness level of the participants.

Studies conducted in India suggest that yoga can improve flexibility, selected physiological functions, muscular performance, and psychological well-being [4]–[8]. These findings are

particularly relevant to female students who may experience academic stress or have limited opportunities for regular exercise.

Conventional physical training offers important advantages for developing strength, cardiovascular endurance, and fitness-related performance. Its effectiveness depends on the inclusion of suitable aerobic and resistance exercises and the use of progressive training methods.

An important observation is that the effects of the two approaches overlap. Yoga may improve strength and cardiovascular function, while conventional exercise may improve flexibility and mental well-being. Therefore, the distinction between them should be based on training characteristics rather than assuming that each method produces only one type of benefit.

The available research also has limitations. Many yoga studies compare an intervention with an inactive control group rather than with a structured conventional exercise programme. Some studies involve small samples, short intervention periods, or participants from specific educational institutions. Differences in training methods and assessment tools further limit direct comparison.

For Indian colleges, combining yoga with conventional physical activity may offer practical benefits. Yoga can support flexibility, balance, relaxation, and body awareness, while aerobic and strength exercises can address other important components of physical fitness. However, additional controlled studies are required to establish whether combined programmes provide greater benefits than individual training approaches.

6. Conclusion

Yoga training and conventional physical training contribute to the physical and psychological well-being of college-level female students through different but complementary approaches. Yoga emphasizes controlled movement, breathing, flexibility, balance, and relaxation, while conventional physical training commonly focuses on muscular strength, endurance, cardiovascular fitness, and physical performance.

Evidence from Indian college-based studies indicates that yoga can improve several physical and psychological health outcomes. Conventional exercise also remains essential for maintaining overall fitness and meeting recommended physical activity levels.

Neither approach can be considered universally superior because their effectiveness depends on the training programme and the outcomes being assessed. Incorporating both yoga and conventional physical training into college physical education may provide a balanced approach to promoting health and fitness among female students in India.

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